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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF OREGON
PORTLAND DIVISION

NORTHWEST ENVIRONMENTAL DEFENSE CENTER, **WILDEARTH GUARDIANS**, and **NATIVE FISH SOCIETY**,

Plaintiffs,

v.

U.S. ARMY CORPS OF ENGINEERS and **NATIONAL MARINE FISHERIES SERVICE**,

Defendants,

and

CITY OF SALEM and **MARION COUNTY**,

Defendant-Intervenors,

Case No. 3:18-cv-00437-HZ

PLAINTIFFS' OPENING BRIEF ON REMEDY

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INTRODUCTION

On August 17, 2020, this Court ruled in favor of Plaintiffs, granting them summary judgment on all three of their Endangered Species Act ("ESA") claims in this case. ECF No. 112. In so doing, this Court held that Defendant U.S. Army of Corps of Engineers' ("Corps") operation of the Willamette River Basin Flood Control Project ("Willamette Project") has been jeopardizing the survival and recovery of Upper Willamette River ("UWR") Chinook Salmon and steelhead and causing "take" of both species. It also held that the Corps and National Marine Fisheries Service ("NMFS") failed to reinitiate ESA consultation when that legal duty was triggered by the Corps' failure to implement required actions from NMFS's 2008 Biological Opinion covering the Project. *Id.* The parties now enter the remedial phase of this case to remedy these serious substantive and procedural ESA violations.

Plaintiffs' proposed injunction encompasses multiple measures aimed at reducing harm to the species from the most significant problems related to operation of the Willamette Project—fish passage and water quality. As Plaintiffs have discussed throughout this litigation, and as this Court recognized in its rulings, the lack of fish passage at dams on four key tributaries is the most significant factor contributing to the species' highly imperiled status and continued declines. Over the last decade, the Corps has failed to take meaningful action to improve passage at these dams, despite consensus from expert biologists at NMFS and Oregon Department of Fish and Wildlife ("ODFW") that such actions are necessary for the survival and recovery of both species. Likewise, the Corps plans to implement measures pending completion of a new ESA consultation that merely nibble around the edges and fail to include significant operational changes addressing fish passage, particularly at the tall high-head dams.

In contrast, Plaintiffs are proposing significant actions similar to ones the agencies have

contemplated for years to improve fish passage as well as water quality, including deep drawdowns at two dams. These actions are supported by Plaintiffs' experts and the experts at NMFS and ODFW because they would achieve immediate benefits for UWR Chinook and steelhead and also provide critical information for the new ESA consultation. Because none of these actions will impair flood control, and protection of ESA species takes priority over other Project uses, the Corps has authority to implement Plaintiffs' proposed measures. Given the Corps' unwillingness over the past decade to take actions that would benefit these species, an injunction ordering significant and immediate operational changes is necessary to provide a lifeline to these fish and halt their downward trends.[1]

ARGUMENT

I. INJUNCTION STANDARDS IN ESA CASES.

As the Ninth Circuit recently reiterated in the Federal Columbia River Power System ("FCRPS") litigation, when seeking interim injunctive measures, plaintiffs must show: (1) that they are likely to suffer irreparable harm in the absence of the requested relief; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for the plaintiffs' injury; (3) that the balance of hardships between the plaintiffs and defendants warrants a remedy in equity; and (4) that the public interest would not be disserved by an injunction. *NWF v. NMFS,* 886 F.3d 803, 817 (9th Cir. 2018) (*NWF VIII*).

In ESA cases, however, courts do not have equitable discretion with regard to the latter three factors. *Id.* Instead, courts must "presume that remedies at law are inadequate, that the balance of interests weighs in favor of protecting endangered species, and that the public interest

[1] The general facts about the Willamette Project and its ongoing impacts to UWR Chinook and steelhead were set forth in the preliminary injunction and summary judgment phases of the case. *See* ECF No. 36 at 2-21 (PI brief); ECF No. 96 at 2-23 (SJ brief). Instead of repeating all of those facts here, Plaintiffs incorporate relevant facts within the Argument sections of this brief.

would not be disserved by an injunction." *Id.* (citing *Cottonwood Envt'l Law Ctr. v. U.S. Forest Serv.,* 789 F.3d 1075, 1090 (9th Cir. 2015)). This comports with Congress's plain intent to "afford[] endangered species the highest of priorities" and "halt and reverse the trend toward species extinction, whatever the cost." *Tenn. Valley Auth. v. Hill,* 437 U.S. 153, 184, 194 (1978).

Because the balance of equities and public interest always tip sharply in favor of ESA-listed species, courts have repeatedly held that economic costs or implications on power production are not factors to consider when determining injunctions under the ESA. *NWF v. NMFS*, 2017 WL 1829588, at *6 (D. Or. April 3, 2017) *(NWF VII)*, *aff'd* 886 F.3d at 817 ("[T]he court does not weigh the public interest or balance the equities, for example by weighing any potential implications on the power system or costs to the Federal Defendants."); *NWF v. NMFS*, 422 F.3d 782, 794 (9th Cir. 2005) (*NWF II)* (district court did not err by failing to weigh economic harm to the public in FCRPS injunction analysis); *Hoopa Valley Tribe v. NMFS*, 230 F. Supp. 3d 1106, 1141 (N.D. Cal. 2017) (court cannot favor economic harm to farmers, ranchers, and their communities over potential harm to endangered species); *see also NWF v. NMFS,* 2007 WL 1541730, at * 2 (D. Or. May 23, 2007) *(NWF III)* (holding Bonneville Power Administration violated ESA requirement because "threatened and endangered species must come before power generation.").

Another important factor in the injunction analysis is that courts do not owe deference to a federal agency's positions or experts concerning irreparable harm or the other injunction factors. *Sierra Forest Legacy v. Sherman*, 646 F.3d 1161, 1186 (9th Cir. 2011); *California Natural Resources Agency v Ross,* 2020 WL 2404853, at *16 (E.D. Cal. May 11, 2020). In *Sierra Forest Legacy,* the Ninth Circuit held the district court abused its discretion "by deferring to agency views concerning the equitable prerequisites of an injunction" and ordered the district

court to conduct its analysis without deference to the agency's experts. 646 F.3d at 1186.

Accordingly, this Court must focus on whether Plaintiffs can show likely irreparable harm absent an injunction and must not defer to the Corps or its experts.

II. IRREPARABLE HARM IS LIKELY ABSENT AN INJUNCTION.

A court determines irreparable harm by reference to the purposes of the statute being enforced. *NWF VIII,* 886 F.3d at 818. "One of the ESA's central purposes is to conserve species," and thus plaintiffs seeking an injunction under the ESA must show likely irreparable harm to the species that results in harm to their own interests. *Id.* at 818, 822; *Hoopa Valley Tribe,* 230 F. Supp. 3d at 1137; *Wishtoyo Found. v. United Water Conservation Dist.*, 2018 WL 6265099, at **64-66 (C.D. Cal. Sept. 23, 2018), *aff'd* 795 Fed. Appx. 541 (9th Cir. Feb. 26, 2020). Establishing irreparable injury under the ESA should not "be an onerous task" given "the stated purposes of the ESA in conserving endangered and threatened species and the ecosystems that support them." *Cottonwood*, 789 F.3d at 1091.

To show likely irreparable harm, Plaintiffs need not show that UWR Chinook or steelhead may or will go extinct absent an injunction. *NWF VIII,* 886 F.3d at 818-19. As the Ninth Circuit noted recently, "[t]he ESA accomplishes its purpose in incremental steps, which include protecting the remaining members of a species. . . . Harm to those members is irreparable because once a member of an endangered species has been injured, the task of preserving that species becomes all the more difficult." *Id.* at 818 (internal quotation omitted). Indeed, the Ninth Circuit and this Court have determined injunctions are appropriate to prevent a defendant from "taking" members of a threatened species—which addresses impacts to individuals and not the species as a whole. *Marbled Murrelet v. Babbitt,* 83 F.3d 1060, 1066 (9th Cir. 1996); *Forest Conservation Council v. Rosboro Lumber Co.*, 50 F.3d 781, 783 (9th Cir. 1995); *Or. Natural*

Desert Ass'n v. Tidwell, 2010 WL 5464269, at *3 (D. Or. Dec. 30, 2010).

Other courts have stated that preventing or impeding a species' progress toward recovery can establish irreparable harm. *Wishtoyo Found.*, 2018 WL 6265099, at *65; *Ross,* 2020 WL 2404853, at *15; *see also Hoopa Valley Tribe,* 230 F. Supp. 3d at 1137 ("Evidence that the Coho salmon will suffer imminent harm *of any magnitude* is sufficient to warrant injunctive relief.") (emphasis added). If past harm from a defendant's actions has reduced a species' population, an injunction is warranted to prevent future harm from further impairing the species' recovery. *Wishtoyo,* 2018 WL 6265099, at **65-66; *Ross,* 2020 WL 2404853, at **17-19; *Hoopa Valley Tribe,* 230 F. Supp. 3d at 1138-39; *see also Tidwell,* 2010 WL 5464269, at *6 (holding that irreparable harm will result if ongoing actions cause further harm to ESA-listed species).

Further, this Court must consider the harm from the operation of the Willamette Project as a whole and not discrete parts or specific actions. The Ninth Circuit made clear in the FCRPS litigation that the irreparable harm analysis must consider the harm to the species from the operation of the entire FCRPS system, not just the components at issue in the injunction request, and thus a similar approach must occur here. *NWF VIII,* 886 F.3d at 819-20.

Finally, the action sought to be enjoined does not have to be the *exclusive* cause of the harm to the species, including where external factors contribute to the harm. *Id.*; *Hoopa Valley Tribe,* 230 F. Supp. 3d at 1139. In *Hoopa Valley Tribe,* the Court explained that although environmental factors contributed to high infection rates of salmon, there was no dispute that operation of the Klamath Project also increased the incidence of infection and thus irreparable harm to the species was likely absent changes to Project operations. 230 F. Supp. 3d at 1139.

As Plaintiffs have demonstrated previously and below, the Corps' operation of the Willamette Project has led to significant harm to UWR Chinook and steelhead. The Corps'

planned operations during the consultation period will continue to harm the species and prevent their recovery. This constitutes irreparable harm to the species, warranting an injunction.

A. The Corps' Operation of the Willamette Project Will Continue to Cause Irreparable Harm to UWR Chinook Salmon and Steelhead.

As this Court found in its summary judgment ruling, the Corps' operation of the Willamette Project has been harming UWR Chinook salmon and steelhead for years, contributing not only to the species' initial listing as threatened but also to their continued decline over the past decade. Blocking access to spawning habitat and impairing downstream water quality have been and continue to be the most significant impacts from Project operations, largely because the Corps has refused to take actions to address these problems. The Corps' planned measures pending the new ESA consultation will provide minimal benefit to the species; much more is needed to reverse their decline and thereby prevent continuing irreparable harm.

1. Additional Impacts from Project Operations Will Irreparably Harm the Fish.

As Plaintiffs explained in their prior briefing in this case, the Corps' failure to implement actions that would improve downstream fish passage past the dams and water quality below the dams has resulted in continuing harm to the species, jeopardizing their survival and recovery and causing "take" of a high proportion of these fish. Pl. SJ Brief at 27-35 (ECF No. 96); Pl. SJ Reply at 12-33 (ECF No. 103). This Court agreed, holding that the Corps' failure to implement measures "critical to improving two of the primary impediments to the salmonids' continued existence and recovery—lack of safe downstream fish passage and poor water quality"—is a "substantial factor" in the species' continued decline, jeopardizing the species' survival and recovery. SJ Order at 21 (ECF No. 112). The Court also determined that the Corps' operations are causing "take" of the species by killing far more juvenile salmon due to poor downstream passage than what NMFS authorized. *Id.* at 29-30. Finally, the Court held that unlawfully

delaying reinitiation for several years led to additional harm to the species, and "an injunction could remedy the present and future adverse effects caused by the agencies' delay in reinitiating consultation." *Id.* at 32. The Court's summary judgment ruling makes clear that, absent significant changes to improve juvenile fish passage and water quality, the Corps' operations will continue to kill and injure many fish, impairing both species' survival and recovery.

Ample evidence confirms that UWR Chinook and steelhead remain at very high extinction risk. Plaintiffs demonstrated in their opening summary judgment brief that both species have declined since they were listed as threatened, with most of their populations at a very small size and trending down in recent years. Pl. SJ Brief at 2-5; *see also* Third Declaration of Kirk Schroeder ¶¶ 32-37 (ECF No. 97). The Court recognized that UWR Chinook and steelhead are "even closer to the brink of extinction" and "in a more precarious condition today than they were" in 2008. SJ Order at 18. Plaintiffs' expert Mr. Schroeder presents the most recent data in his declaration accompanying this brief, which confirms the perilous status of these species and downward trends of many populations. Fourth Declaration of Kirk Schroeder ¶¶ 10-25 (filed herewith); *see also* Ex. 63[2] at 3 (NMFS noting in April 2020 that South Santiam Chinook and steelhead populations are "seriously declining . . . and desperately need an uplift"); Ex. 64 at 3 (NMFS stating in October 2019 that "last three years were some of the lowest ever for steelhead counts"); Ex. 65 (October 2019 graphs of population trends).

Indeed, NMFS stated in June 2019 that "the statuses of UWR Chinook salmon and steelhead continue to decline. Any additional delay in implementing critical fish passage and habitat actions associated with the [Willamette Project] would only prolong this period of elevated extinction risk and potentially make recovery of these species more difficult in the

[2] Exhibits 63 and higher are filed with this remedy brief. Exhibits with lower numbers were filed with Plaintiffs' preliminary injunction or summary judgment briefing.

future." Ex. 66. It similarly stated in 2019 that "the status of both species has declined since 2008," and "[b]oth species remain at high risk as they continue to experience the adverse effects caused by operation of the [Willamette Project]. . . ." Ex. 59 at 95. Plaintiffs' experts confirm the Project continues to impair the viability of these populations and contribute to their decline. Fourth Schroeder Decl. ¶¶ 26-36; Third Declaration of Richard Domingue ¶¶ 4-6 (filed herewith). This evidence makes clear that the ongoing harm from the Corps' operation of the Willamette Project has put the species at very precarious levels, not only preventing their recovery but impairing their very survival. Fourth Schroeder Decl. ¶¶ 29, 33-36. As this Court recognized, "the longer a listed species remains at depressed population levels, the[] greater likelihood that chance events will severely affect it or even wipe out its population." SJ Order at 18 (citing USACE 040282; *NWF v. NMFS*, 524 F.3d 917, 930 (9th Cir. 2008) *(NWF IV))*; *see also NWF v. NMFS,* 184 F. Supp. 3d 861, 891 (D. Or. 2016) *(NWF VI*) ("the longer a species remains at low population levels, the greater the probability of extinction from chance events, inbreeding depression, or additional environmental disturbance"); *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 526-29 (9th Cir. 2010) (contributing to the decline of a species already at low abundance impairs its survival); Fourth Schroeder Decl. ¶¶ 35, 85-86.

In light of their current status, any further harm to these species added to the past damage from the Corps' operations will be irreparable. In a very similar situation in the FCRPS litigation, the Ninth Circuit agreed with this Court that continued operation of the dams while the agencies completed a new consultation was likely to irreparably harm the species. *NWF VIII,* 886 F.3d at 820-22. The Ninth Circuit noted the highly precarious status of the species, that their low abundance made them vulnerable to extinction, that operation of the dams causes substantial harm to the salmonids and accounts for most mortality of juveniles migrating downriver, and that

the species will remain in a precarious state without further conservation efforts at the dams. *Id.* These findings were sufficient to establish irreparable harm for an injunction pending a new biological opinion. *Id.* Similar situations resulted in earlier FCRPS injunctions while the agencies completed consultation. *NWF v. NMFS*, 839 F. Supp. 2d 1117, 1131 (D. Or. 2011) (*NWF V*); *NWF II*, 422 F.3d at 793, 795.

Other courts have similarly found irreparable harm to threatened fish from ongoing actions that had already damaged the species. In *Hoopa Valley Tribe,* the Court found likely irreparable harm pending completion of a new ESA consultation where prior operation of the Klamath Project had helped weaken the Coho population's abundance, fitness, and resilience, making future protective measures particularly important; and the defendant was unlikely to provide those measures without a court order, which would further diminish the salmon's precarious status. 230 F. Supp. 3d at 1137-39. Similarly, in *Wishtoyo Foundation*, operation of a water diversion constituted past, ongoing, and future harm to threatened steelhead because the defendant had refused to tackle the two key problems for the fish, which was preventing the recovery of the species, and thus continuation of the status quo was likely to result in irreparable harm to the steelhead. 2018 WL 6265099, at **64-66*; see also Ross,* 2020 WL 2404853, at **16-19 (continuing operation of Reclamation Project that would cause a similar level of harm to an important but declining population of steelhead satisfied the irreparable harm prong); *South Yuba River Citizens League v. NMFS*, 804 F. Supp. 2d 1045, 1054-55 (E.D. Cal. 2011) (where fish species had low abundance, declining productivity and low spatial distribution, and dam operations harmed the species, injunction was warranted pending a new biological opinion).

The situation here is similar, where the Corps' operation of the Willamette Project has significantly harmed UWR Chinook and steelhead for years—putting them in a very precarious

state; and continuing impacts pending a new ESA consultation would further impair the survival and recovery of these species that are already at very low abundance. Fourth Schroeder Decl. ¶¶ 35-37, 85-86; Third Domingue Decl. ¶ 6. As in the cases above, these facts demonstrate likely irreparable harm unless substantial changes to Project operations occur, particularly with regard to fish passage and water quality. Immediate changes are needed to try and improve conditions for the fish in the short-term, and provide critical information for long-term solutions.

2. The Corps' Interim Measures Will Not Alleviate the Irreparable Harm.

The Corps has proposed some interim measures but these fall far short of what is needed to meaningfully benefit the fish. Ex. 67. Notably, the Corps acknowledged in June 2020 that it has no current funding to continue working on permanent downstream passage structures, calling into question its ability to complete these long overdue projects. Ex. 68 at 1-2 (noting no FY20 funding for Detroit downstream fish passage, Foster fish weir, or Cougar downstream fish passage projects). And it still has no plans for a long-term passage solution at Lookout Point. Ex. 69 (Sept. 2019 notes discussing feasibility of Middle Fork passage options). Yet despite the uncertainty about when and even whether the structural downstream passage projects will occur, the Corps has refused to conduct operational changes that were mandated a decade ago under the 2008 BiOp and which would likely provide immediate passage improvements and important information for long-term planning—such as whether operational changes may be a better option than the highly uncertain structures.

The Corps recently put together an implementation plan for its own suite of interim measures, Ex. 67, but that plan contains only minor operational changes that will do little to improve downstream fish passage. Fourth Schroeder Decl. ¶¶ 44-47; Third Domingue Decl. ¶¶ 7-9, 98. This is a significant shortcoming, because as this Court recognized, downstream

passage is one of the biggest problems for these fish, and without access to and from spawning habitat above the dams, neither species will recover. SJ Order at 10-12, 20-21; Fourth Schroeder Decl. ¶ 31. NMFS and ODFW continue to emphasize the importance of fish passage and to recommend both short-term and long-term solutions. *See* Ex. 63 at 2-3, Ex. 64 at 3 (noting need to test passage operations like drawdowns or spill and to outplant fish above Green Peter); Ex. 66 at 5, Exs. 70-73 (comments about the need to consider deep drawdown and spill operations in EIS process). The Corps has consistently resisted testing operational changes that could help with passage, such as deep reservoir drawdowns or spill operations. *See* Pl. SJ Brief at 16-20 (discussing Corps' failure to implement passage measures); Ex. 74 (NMFS noting in 2019 that spill operation at Lookout Point was "likely to be sandbagged and stalled by Corps and BPA"); Ex. 75 at 2 (Corps rejecting Lookout Point spill operation in 2019).

The Corps' interim measures likewise fail to include significant passage actions, such as the deep reservoir drawdowns recommended by NMFS and ODFW. Downstream passage at the high head dams (Detroit, Green Peter, Cougar, Lookout Point) is the biggest problem for the fish and causes the most mortality, but the Corps' measures do little to address this problem. It does not plan to conduct deep drawdowns at *any* of the high head dams,[3] and it insists on completing a research plan rather than actually beginning to outplant adult fish above Green Peter Dam. Ex. 67 at 6, 9, 16-20, 24. Furthermore, the Corps' measures contain so much discretionary language that it is far from certain these measures will occur. *Id.* at 1-26; Fourth Schroeder Decl. ¶ 83.

As explained by Plaintiffs' experts, the Corps' measures fall far short of what it must do to improve downstream fish passage and will offer little survival benefit over the next four years.

[3] One purpose of a deep drawdown is to lower the reservoir so that its level is within 20-25 feet of regulating outlets in the dam, which are generally safer passage routes than power turbines. As explained more fully in Plaintiffs' remedy section, none of the Corps' interim measures provide accessibility to regulating outlets in the high head dams.

Fourth Schroeder Decl. ¶¶ 44-47, 50-51, 55, 59-60, 64-65, 69, 82, 87; Third Domingue Decl. ¶¶ 7-9, 16-21, 23-24, 35, 41-45, 53-55, 58, 60-63, 66, 71-73, 77, 89, 98. Much more must be done pending the new consultation, as shown below when discussing Plaintiffs' proposed remedy.

Similarly, the Corps' operations have continued to adversely affect water quality, with water temperatures and total dissolved gas ("TDG") below dams in the North Santiam, South Santiam, and Middle Fork outside targets for the species. *See* Pl. SJ Brief at 20-22 (describing water quality problems due to Project); Fourth Schroeder Decl. ¶¶ 30, 34, 42; Third Domingue Decl. ¶¶ 5, 17, 30, 39, 49, 69, 75. The 2018 and 2019 water quality reports show that water temperatures below Detroit, Green Peter and Lookout Point dams continue to be too warm in fall and too cold in summer, while TDG exceedances repeatedly occur below Big Cliff Dam. Ex. 76 at 23-25, 32, 37-40, 67-70; Ex. 77 at 25-27, 34, 40-42, 69-72; *see also* Ex. 78 at 4 (noting temperature below Detroit much too cold Aug-Sept and much too hot Oct-Nov); Exs. 79-80 (discussing TDG problems at Big Cliff in 2019).

The Corps' interim measures do not go far enough to alleviate this harm. Although using regulating outlets (ROs) at Detroit and Lookout Point dams could reduce downstream water temperatures in the fall, the Corps does not plan to take those actions. Third Domingue Decl. ¶¶ 22, 75; Ex. 70 at 7, Ex. 71 at 5, Ex 73 at 2, 4 (NMFS and ODFW recommending use of ROs for temperature control); Ex. 67 at 8, 21-26. And it has no plans for temperature control operations at Green Peter Dam. Ex. 67 at 9-13. To reduce TDG below Big Cliff Dam, the Corps simply intends to spread flow across the spillway even though that action will reduce TDG just a small amount and NMFS and ODFW have argued for years that a structural solution is needed to address the problem. *Id.* at 7; Ex. 70 at 8, Exs. 80-82 (discussing need for structural solution at Big Cliff to deal with TDG problem). Given the serious water quality problems occurring in the

three sub-basins, the Corps must do more than what it plans to implement for interim measures.

Even under the Corps' interim plan, significant harm to both species will continue to occur from Project operations, adding to the prior damage that has led to their highly precarious status. These species need additional protections now to reverse their downward trends caused by the Corps' serious legal violations, warranting an injunction from this Court.

B. Harm to the Species Results in Irreparable Harm to Plaintiffs.

Plaintiffs have also shown that irreparable harm to the species results in irreparable harm to themselves. The Ninth Circuit has held that a plaintiff can establish harm by connecting one of its member's recreational and aesthetic interests to the health and abundance of listed salmonid populations. *NWF VIII*, 886 F.3d at 822. Harm that reduced a species' numbers and distribution, and in turn harmed a member's interests through fewer opportunities to see the fish when recreating and enjoying nature, was sufficient to show irreparable harm to the plaintiff. *Id.*

Similar to the declarant in *NWF VIII,* Plaintiffs have submitted numerous declarations describing their members' interests in seeing UWR Chinook and steelhead and simply knowing the fish are present in the rivers where these members recreate and enjoy nature.[4] The Corps' operations that reduce the abundance and distribution of these fish make it less likely they will occur or be seen by Plaintiffs' members when those members use the Willamette River and its tributaries, which reduces their enjoyment during their recreational activities. Second Thomas Decl. ¶¶ 10–19 (witnessing the decline of the species since he began fishing in 1954 and facing irreparable harm each year that passes without the opportunity to fish more abundant runs with his children or grandchildren); Fairbrother Decl. ¶¶ 9-25 (describing the irreplaceable loss that

[4] Plaintiffs submitted five declarations in the early stages of this case, ECF Nos. 40–45, and are filing three new or updated declarations herewith. Second Declaration of Dave Thomas; Declaration of Jennifer Fairbrother; Declaration of Karl Anuta.

she feels during each visit to these rivers, which she fished growing up but can no longer do in good conscience); Anuta Decl. ¶¶ 5-19 (noting that each trip to these rivers where he cannot experience wild salmonids is a missed opportunity that he can never replace). Thus, the irreparable harm to UWR Chinook and steelhead from the Corps' operations results in irreparable harm to Plaintiffs themselves, satisfying the harm element for an injunction.

III. PLAINTIFFS' INJUNCTION PROPOSAL IS NARROWLY TAILORED TO ADDRESS THE MOST SIGNIFICANT HARMS.

A district court has broad discretion in fashioning an equitable remedy. *Melendres v. Arpaio*, 784 F.3d 1254, 1265 (9th Cir. 2015); *Sierra Forest Legacy v. Rey,* 577 F.3d 1015, 1022 (9th Cir. 2009). While there must be a "sufficient causal connection" between the alleged irreparable harm and the activity to be enjoined, showing that "the requested injunction would forestall" the irreparable harm qualifies as such a connection. *NWF VIII,* 886 F.3d at 819 (quoting *Perfect 10, Inc. v. Google, Inc.*, 653 F.3d 976, 981-82 (9th Cir. 2011)). Furthermore, the relief need not completely prevent the irreparable harm identified. *Id.* at 823.

Notably, the existence of scientific uncertainty about the efficacy of certain actions does not preclude their incorporation into an injunction. *Id.* As this Court recently said, "the ESA does not require perfect knowledge to support an injunction to protect a listed species, rather it requires action to protect a species consistent with the best *available* scientific information." *NWF VII*, 2017 WL 1829588, at *9 (emphasis added); *see also Hoopa Valley Tribe,* 230 F. Supp. 3d at 1145 ("Where plaintiffs have shown a threat of imminent harm to the Coho salmon, waiting for perfect science is not appropriate."); *Alaska Oil & Gas Ass'n v. Pritzker*, 840 F.3d 671, 680 (9th Cir. 2016) (ESA requires action based on the best available science and does not require parties to wait for underlying research to be ironclad and absolute).

As Plaintiffs show below, their requested injunction measures are narrowly tailored to

address the harms identified by this Court and are supported by the best available science.

A. Plaintiffs Request Measures that Will Address Key Harms of the Project and Provide Critical Information for the New ESA Consultation.

Plaintiffs' remedy proposal consists of three parts: deadlines for key analyses, interim measures regarding operation of the Project to address fish passage and water quality, and required monitoring and other general measures. Pl. Rem. Prop. (ECF No. 117). Plaintiffs' proposal consists of critical actions to benefit the fish, which are supported by the evidence in the record as well as Plaintiffs' experts. This proposal would be in place until the new ESA consultation for the Willamette Project is completed.

1. Deadlines

Courts can impose deadlines for agencies to complete new analyses, as seen in several ESA cases related to dam operations. *South Yuba River Citizens League*, 804 F. Supp. 2d at 1049 (noting that court ordered NMFS to complete new biological opinion by December 12, 2011); *NWF V*, 839 F. Supp. 2d at 1131 (ordering NMFS to produce new biological opinion by January 1, 2014); *NWF IV*, 184 F. Supp. 3d at 949 (ordering NMFS to complete new biological opinion by March 1, 2018).

Here, a deadline for completing the new ESA consultation is important in light of the long delays that occurred with the prior consultation. SJ Order at 4 (noting that consultation began in 2000 but was not completed until 2008). Plaintiffs recognize, however, that important information should be collected before NMFS completes its biological opinion, including data from the operational measures Plaintiffs are requesting. Therefore, Plaintiffs are proposing December 2024 as the deadline for the new opinion, which would allow for several more years

of data collection that could be incorporated into NMFS's analysis.[5] Pl. Rem. Prop. at 1.

Additionally, Plaintiffs are requesting a deadline of December 2021 for an analysis being conducted by the Corps, referred to as Cougar 2.0. *Id.* This analysis is looking at alternative downstream passage operations that could occur if Congress de-authorized power as a purpose of Cougar Dam. *See* Ex. 83 (NMFS comments on Cougar 2.0 study).[6] With no power production, operational measures could replace a large structure as the preferred long-term downstream passage method at Cougar. *See id.* at 6; Ex. 70 at 10; Ex. 71 at 3. Therefore, completing the Cougar 2.0 study soon is critical so the results of that analysis can be incorporated into the Corps' new EIS for the Project and NMFS's biological opinion.

2. Passage Measures

As discussed throughout this litigation, fish passage is the biggest problem and highest source of mortality from the operation of Project dams, and *must* be addressed with an injunction. Significant interim measures for downstream passage are critical not only to provide immediate benefits for the fish but also important data for the new biological opinion. Much of Plaintiffs' remedy proposal focuses on improving survival during juvenile migration through reservoirs and dams. NMFS and ODFW recently reiterated the need to study how juvenile behavior is affected by alternative passage operations such as spill or drawdowns, and that such operations could be implemented quickly. Ex. 63 at 2, 3; *see also* Ex. 64 at 3 (operational

[5] Notably, additional years of data collection are needed because the Corps' failure to implement the 2008 RPA precluded timely generation of such data, particularly on the benefits of additional operational measures and biological research about the species.

[6] Given the small amount and high cost of power production from the Willamette Project, Congress has started looking at de-authorizing power at some or all of the dams. *See* Connolly Declaration ¶¶ 18-19 (ECF No. 66) (noting Project dams account for <4% of power in whole FCRPS system but have much higher costs); Water Resources Development Act 2020, HB 7575, § 214 (House Bill for Water Resources Development Act 2020 ordering Corps to do report on no-power options at Cougar and Detroit dams).

passage measures have been cheapest and most effective passage options at many projects).

Although the details of Plaintiffs' operational passage measures seem complex, they are based on a few general principles. First, large reservoirs with slow-moving water contain many predators and disease pathogens, and the lack of current makes it difficult for fish to find their way downstream to the dam. Fourth Schroeder Decl. ¶¶ 38-39; Third Domingue Decl. ¶ 11(a). Plaintiffs' proposal aims to speed navigation through reservoirs by making the reservoirs smaller via drawdowns or increasing flow via spill operations. Second, it is generally believed that higher mortality occurs when fish pass through turbines than when they pass through ROs or during spill, and thus Plaintiffs' proposal aims to reduce passage through turbines. Fourth Schroeder Decl. ¶¶ 38-39; Third Domingue Decl. ¶ 11(c); Ex. 19 at 76, Ex. 24, Ex. 29 (survival through ROs better than through turbines). Third, fish normally do not sound very deep and are unlikely to find an outlet in the dam unless the reservoir surface elevation is within 20-25' of the outlet. Fourth Schroeder Decl. ¶¶ 38-39; Third Domingue Decl. ¶ 11(b); Ex. 19 at 76. The deep drawdowns in Plaintiffs' proposal make it much more likely fish will find the ROs. Finally, fish move more between sunset and sunrise than during daylight hours and thus Plaintiffs propose turning off turbines at night. Fourth Schroeder Decl. ¶ 51; Third Domingue Decl. ¶ 21; Ex. 84 at 5 (data shows 98% of downstream migrants pass dam during nighttime hours).

a. North Santiam

Plaintiffs' passage measures for the North Santiam relate only to Detroit Dam. Pl. Rem Prop. at 1. During the fall/winter flood control period when the reservoir is at a low level, the Corps would turn off the turbines and use the upper ROs from sunset to sunrise to try and encourage fish to pass through the upper ROs rather than the turbines during the time fish are most likely to migrate. Fourth Schroeder Decl. ¶ 51; Third Domingue Decl. ¶¶ 19-21. The

problem with this measure is that even when the reservoir is at its low winter elevation, the surface is still 110' above the upper ROs, making those ROs difficult for fish to reach. However, given the concerns about impacts to the City of Salem's drinking water supply, Plaintiffs are not seeking a deep drawdown at Detroit like they are for Cougar and Lookout Point. Third Domingue Decl. ¶ 21.

Instead, Plaintiffs are seeking an additional passage operation to boost passage during the spring. Once the reservoir refills in spring to a level 2 feet above the spillway, the Corps would operate the spillway so that a significant amount of flow was occurring between sunset and sunrise[7] for thirty days, helping flush juvenile fish downriver during hours they are most likely to be moving. Third Domingue Decl. ¶¶ 23-24. During dry years, it might not be possible to refill the reservoir above the spillway and also meet downstream spring flow targets, so a team of fisheries experts would weigh the risks and recommend whether or not to meet the flow targets. *Id.* ¶¶ 25-26. The two passage operations would attempt to boost juvenile passage in fall and spring, which is important for maintaining diverse life histories within each species. Fourth Schroeder Decl. ¶¶ 7-9, 28, 31, 39, 50-51. In comparison, the Corps' passage measure at Detroit offers minimal benefit because it reduces turbine use in fall/winter only for a few hours (and well after sunset) rather than all night (and starting at sunset), and it makes no changes to boost spring migration even though not many fish will find the ROs during the fall passage operation. Fourth Schroeder Decl. ¶¶ 50-51; Third Domingue Decl. ¶¶ 21, 24, 35.

b. South Santiam

For the South Santiam, Plaintiffs are proposing passage measures at Green Peter and Foster. As noted above, the South Santiam populations of Chinook and steelhead have

[7] The hours used for nighttime operations vary because sunrise and sunset change over the course of the year, with earlier sunset and later sunrise in winter compared to summer.

significantly declined in recent years, and "desperately need an uplift." Ex. 63 at 3; Fourth Schroeder Decl. ¶¶ 20, 54. Extensive spawning habitat exists above Green Peter Dam but the Corps does not outplant adult fish there. Third Domingue Decl. ¶¶ 36-37. NMFS has been recommending for years that the Corps begin outplanting adult Chinook above Green Peter but the Corps has resisted that action. Fourth Schroeder Decl. ¶ 55; 2008 BiOp at 9-33; Ex. 10 at 2-3; Ex. 30; Ex. 31; Ex. 85. The Corps' interim measures simply propose putting together an initial research plan to "assess the potential" for fish passage at Green Peter and to "inform future decisions," which does not provide any certainty about when or even if outplanting above Green Peter would occur. Ex. 67 at 9; Fourth Schroeder Decl. ¶ 55; Third Domingue Decl. ¶¶ 42, 45.

Plaintiffs proposal calls for immediate actions to prevent the Corps from continuing to delay this important task. Pl. Rem. Prop. at 2; Fourth Schroeder Decl, ¶¶ 56-57, 62; Third Domingue Decl. ¶¶ 43-48, 58. It requires outplanting adult fish above Green Peter within one year and construction of several permanent adult release sites within two years. The Corps would initiate downstream passage operations the first spring that juveniles enter the reservoir. Once Green Peter reservoir refills to 2 feet above the spillway, the Corps would discharge substantial spill on a continual basis for thirty days, providing some flow in the lower reservoir to help direct juveniles to the dam face. Green Peter Dam contains four "fish horns," which are bypass pipes through the dam for fish passage that each occur at a different elevation. The spill operation would aim to get fish to the dam so they can pass it through spill or a fish horn.

Then during fall drawdown, each of the fish horns would be opened once the reservoir dropped to within 40' of it. Data would be collected on the spawning success of adult outplants as well as juvenile spring and fall passage survival. The Corps would also model other potential passage operations such as a deep drawdown or delayed refill of the reservoir to inform decisions

about future passage operations. Third Domingue Decl. ¶¶ 48, 50. The agencies have been discussing outplanting fish above Green Peter for years, and it is critical to begin this action *now* given the dire status of these populations. Fourth Schroeder Decl. ¶¶ 54-55, 62.

Passage measures at Foster are needed as well because the new fish weir caused high mortality of fish and thus is no longer in use, and the Corps has no funding to fix it. Ex. 68 at 1. Because the Corps has apparently given up on fixing the weir, at least for now, Plaintiffs proposal contains a process with a set timeline to implement a structural solution for downstream passage at Foster to replace the failed weir. Pl. Rem. Prop. at 2; Fourth Schroeder Decl. ¶ 59; Third Domingue Decl. ¶¶ 51-52.

Until that structural solution is in place, operational measures can improve passage. Plaintiffs propose operating the spillway with turbines off from sunset to sunrise during a fall period and a spring period. Pl. Rem. Prop. at 2. This measure is similar to the Corps' interim measure, except the turbines would be completely off to minimize fish attraction to them, and the hours are adjusted to encompass seasonal sunset-to-sunrise hours. *Cf. id. with* Ex. 67 at 10; Fourth Schroeder Decl. ¶ 60; Third Domingue Decl. ¶ 54. In addition, Plaintiffs recognize that spill can create high levels of TDG below the dam, which can be harmful to fish if it occurs for prolonged periods or during spawning or rearing. Operating the turbines can lower TDG but will create higher mortality of juvenile fish trying to pass the dam. Therefore, Plaintiffs propose that an expert team of biologists would weigh the risks if TDG levels exceed the state standard of 110% and advise the Corps on the appropriate course of action. Pl. Rem. Prop. at 2. Plaintiffs also propose keeping Foster Reservoir at its low winter elevation through May 15. *Id.* This would speed navigation through the reservoir to the dam for much of the spring migration season. Fourth Schroeder Decl. ¶ 60; Third Domingue Decl. ¶ 55.

Finally, upstream passage has been a problem at Foster Dam because adult fish have not been entering the fish collection facility to allow for their capture and outplanting above Foster.[8] Fourth Schroeder Decl. ¶ 61. The Corps has proposed some operational measures to address the problem but they are likely insufficient and structural changes are likely necessary. *Id.;* Ex. 67 at 11. Plaintiffs propose that such structural measures occur within two years. Pl. Rem. Prop. at 3.

c. South Fork McKenzie

At Cougar Dam, Plaintiffs propose a deep reservoir drawdown in fall and delayed refill in spring. Pl. Rem. Prop. at 3; Fourth Schroeder Decl ¶ 63; Third Domingue Decl. ¶¶ 61-62. The Corps previously tested a deep drawdown in December 2012 that lowered the level of the reservoir to within 25 feet of the ROs, and survival was better under that operation. Ex. 26 at 28, 38. The Corps considered conducting further deep drawdown operations from 2013-2020, as described in a draft environmental assessment, but did not follow through with that plan. Ex. 27 at 10-11. Plaintiffs' proposal is almost identical to the Corps' previous plan at Cougar, dropping the reservoir to 1505' for a month in late fall. *Cf* Pl. Rem. Prop. at 3 *with* Ex. 26 at 28, Ex. 27 at 10-11. The turbines would be turned off when the reservoir reached 1532' to reduce the likelihood of fish passing through the turbines as the reservoir lowers.

The reservoir would remain near the RO level for a month with no turbine use to allow fish to pass through the ROs, and then it could return to its normal winter elevation of 1532'. Once there, it would remain at that elevation through May 1 to try and speed spring migrants' trip through the reservoir and keep the reservoir closer to the level of the ROs. After May 1, the Corps would refill the reservoir up to 1600'. However, an expert team of biologists could recommend beginning refill prior to May 1 if hydrologic data indicated that earlier refill is

[8] The Corps has been outplanting adult fish in the South Fork of the South Santiam above Foster Dam, but has not outplanted fish in the Middle Fork of the South Santiam above Green Peter.

needed to have enough water for late summer and fall temperature control operations used to protect Chinook spawning below the dam. Third Domingue Decl. ¶ 61. During the spring migration period, the turbines would be off and the ROs open from sunset to sunrise to attract migrating fish to the ROs rather than the turbines. These deep drawdown and delayed refill measures have been supported by NMFS and ODFW for years. Ex. 28 at 2; Ex. 46 at 1; Ex. 54; Ex. 56 at 5; Ex. 63 at 3; Ex. 66 at 5; Ex. 70 at 10. By including passage measures in fall and spring, Plaintiffs' proposal helps multiple life history forms of juvenile UWR Chinook.

Under Plaintiffs' proposal, the Corps would also model a run-of-river operation, where the reservoir is kept at a low level and storage of water occurs only for flood control purposes, to help assess the potential to use this operational measure in the future. Fourth Schroeder Decl. ¶ 66; Third Domingue Decl. ¶¶ 64-65. This type of operation could become the long-term passage solution under a no-power-production scenario. *See* Ex. 70 at 10; Ex. 71 at 3; Ex. 83 at 6. Finally, the Corps must make changes to the RO spillway to reduce injuries to juvenile fish due to the steep drop and vertical plunge of the water. Third Domingue Decl. ¶ 63.

The Corps' interim measures do not incorporate a deep drawdown at Cougar. Ex. 67 at 17-20. Prioritizing use of ROs over turbines will have much less benefit if the reservoir is not dropped closer to the ROs because fewer fish will find them. Even the Corps' field biologist recognizes the significant improvement in downstream migration at Fall Creek is due to the deep drawdowns occurring there, and that "[t]his type of success is a great model for what we might be able to do at other projects." Ex. 86. Yet the Corps has not proposed deep drawdowns in any of its interim measures. Furthermore, neither of its alternative options for Cougar Dam include passage measures in both fall and spring to benefit multiple life history forms. Ex. 67 at 17-20 (Measure 16 prioritizes RO use in fall, Measure 17 prioritizes RO use in spring). Accordingly,

Plaintiffs' measures are more likely to substantially improve juvenile migration. Fourth Schroeder Decl, ¶¶ 64-65; Third Domingue Decl. ¶¶ 62, 66.

d. Middle Fork Willamette

Plaintiffs are likewise proposing two passage measures at Lookout Point Dam: a deep drawdown in fall and a spring spill operation. Pl. Rem. Prop. at 3; Fourth Schroeder Decl. ¶¶ 67-68; Third Domingue Decl. ¶¶ 69-73, 76-77. Again, these are measures for which NMFS has been advocating for years. After repeatedly pressing the Corps to do a deep drawdown, the Corps completed a draft environmental assessment and was planning to conduct the operation in Fall 2017 before suddenly deciding it did not have authority to do it. *See* Ex. 9; Ex. 19 at 10; Ex. 21 at 3; Ex. 22; Ex. 51; Ex. 53. NMFS continues to believe a deep drawdown at Lookout Point would be beneficial. Ex. 66 at 5; Ex. 70 at 9; Ex. 72 at 1. A spring spill operation also has been on the table for several years. Ex. 19 at 8-9; Ex. 20 at 3. NMFS formally requested a spill operation in 2019 after the Corps indicated it did not intend to do it. Ex. 75 at 2; Exs. 87-89.

Plaintiffs' proposal mirrors the plans put forth by the agencies for these operations. The Corps would begin the drawdown on August 1, lower the reservoir to 750' by November 15 and hold it there until December 15, and turn off the turbines when the reservoir reached minimum conservation pool (825'). This is similar to the deep drawdown plan proposed for 2017. *See* Ex. 19 at 10 (drawdown to 750' in fall for one month, with ROs used exclusively after reservoir reaches 825'); Ex. 53 at 3 (drawdown to 750' for up to one month, starting in November).

For spring spill, the Corps would prioritize refill of the reservoir once flood control season is over. When the reservoir reaches 889' (2 feet above spillway crest), the Corps would conduct free, ungated spill for 2-4 weeks, maintaining the reservoir below 911' during the operation so that fish do not need to sound more than 25 feet to reach the depth of the spillway.

This measure is identical to what NMFS proposed just last year. Ex. 89 at 5. With the drawdown and spill operations, passage operations would occur in fall and spring.

The Corps' lone measure for Lookout Point is to operate the spillway in spring or summer if the reservoir refills to 900', with no other conditions specified. Ex. 67 at 24; Fourth Schroeder Decl, ¶ 69. Plaintiffs' proposal would require spill at a lower elevation, making it more likely to occur in drier years, and would provide a higher level of discharge to help flush fish past the dam. And with a fall deep drawdown, Plaintiffs' measures offer far more benefit to the fish. Fourth Schroeder Decl. ¶¶ 68-70; Third Domingue Decl. ¶¶ 69, 71-73, 89.

Plaintiffs also propose that the Corps model other passage operations, including delayed refill and run-of-river operations, to assess the potential for these operations in the future. Pl. Rem. Prop. at 3-4; Third Domingue Decl. ¶¶ 78-79. Finally, because predation is a significant problem in Lookout Point Reservoir, an expert team of biologists will recommend actions to reduce predators in the reservoir and the Corps will implement those actions within four years. Pl. Rem. Prop. at 4; Ex. 19 at 20 (noting need for program to deal with abundant non-native fish that prey on juvenile salmon); Fourth Schroeder Decl. ¶ 71; Third Domingue Decl. ¶ 80.

At Dexter Dam, Plaintiffs propose conducting spill and turning off the turbines from sunset to sunrise during the fall and spring passage operations at Lookout Point so fish that have migrated past Lookout Point Dam can more easily pass Dexter Dam. Pl. Rem. Prop. at 4; Fourth Schroeder Decl. ¶¶ 68-69; Third Domingue Decl. ¶¶ 82-83. This is in line with recommendations from NMFS. *See* Ex. 70 at 9; Ex. 71 at 4; Ex. 89 (all stating that spill should be prioritized at Dexter during Lookout Point passage operations). If spill at Dexter results in high TDG levels below the dam, the expert biologist team would advise the Corps on whether to use turbines to reduce TDG.

The Corps must also take actions to improve the Dexter adult fish facility within two years. Pl. Rem. Prop. at 4. The 2008 Biological Opinion required the Corps to upgrade this facility by 2014, but the agency has yet to make those improvements. 2008 BiOp at 9-40; Ex. 66 at 5; Ex. 70 at 10; Ex. 73 at 3 (all noting Corps should consider improving Dexter adult fish facility or construct new facility).

Lastly, at Fall Creek, Plaintiffs propose that the deep drawdowns, which have been so successful at improving downstream migration, occur for six weeks rather than just two. Pl. Rem. Prop. at 4; Fourth Schroeder Decl. ¶ 72; Third Domingue Decl. ¶ 86. Plaintiffs also propose using the ROs in spring to maintain the reservoir at 728', which is sufficient to operate the adult fish collection facility but keeps the reservoir at minimum conservation pool for the spring migration season to speed navigation through the reservoir and have closer access to the ROs. *See* Wells Decl. ¶¶ 89, 95 (ECF No. 75) (discussing elevations at Fall Creek); Piaskowski Decl. ¶ 70 (fish facility cannot operate if reservoir below 728'); Third Domingue Decl. ¶¶ 87-88.

In conclusion, while the Corps has plans for some interim passage measures before the new biological opinion is completed, it continues to resist key operational measures that have been recommended by the experts for years—deep drawdowns at high head dams and outplanting of adult fish above Green Peter. Plaintiffs are proposing deep drawdowns at Cougar and Lookout Point and outplanting of fish above Green Peter to provide immediate benefits to the fish and to provide critically-important information for the new biological opinion.

3. Water Quality Measures

Plaintiffs' measures to improve water quality revolve around water temperatures and TDG. As explained above, the most recent water quality reports for the Project dams show that water temperatures below dams continue to be outside objectives in summer and fall. *Supra* p.

12. Plaintiffs propose measures to improve water temperatures by: (1) keeping Detroit Reservoir below minimum conservation pool from Nov. 1 to Dec. 1 so the lower ROs can be used to release colder water during the month of November; (2) conducting operations at Green Peter and Foster to meet water temperature targets downstream; and (3) beginning use of ROs at Lookout Point on August 15 to lower water temperatures below the dam. Pl. Rem Prop. at 1-3.

For Detroit, temperatures are too warm from about mid-October to early December, which is during Chinook incubation. Ex. 76 at 23-25; Ex. 77 at 25-27; Ex. 78 at 4. The lower ROs at Detroit could provide colder water from lower in the reservoir to better meet fall temperature targets, but those ROs can only be operated if the reservoir drops below minimum conservation pool (1450'). Wells Decl. ¶¶ 101, 103. As explained in the 2018 water quality report, by November the upper ROs were not able to help cool downstream temperatures, and "the much cooler deeper [lower RO] releases could not be utilized because the forebay elevation was too high." Ex. 76 at 24. Plaintiffs' proposal would allow the Corps to use the lower ROs in November to help cool downstream water because the reservoir would be maintained below 1450' for that month. Fourth Schroeder Decl. ¶ 53; Third Domingue Decl. ¶ 22. The reservoir is normally kept at 1450' for the winter flood control season so Plaintiffs' request does not drop the reservoir much below its normal level. The expert agencies have recommended such an action to help with water temperatures. Ex. 70 at 7; Ex. 73 at 2. The Corps' interim measures, however, do not include use of the lower ROs at Detroit for temperature control. Ex. 67 at 8.

Plaintiffs are proposing the Corps conduct temperature control operations at Green Peter and Foster because the water below those dams also does not meet temperature targets for much of the year, and the Corps has not been conducting temperature control operations at those dams. Third Domingue Decl. ¶¶ 49, 56; Ex. 76 at 35, 37-40; Ex. 77 at 37, 39-42. The Corps' interim

measures include a one to two-month operation at Foster Dam to improve water temperatures at the adult fish collection facility, but they contain no other operations at Foster and none at Green Peter to try and meet the downstream temperature targets. Ex. 67 at 11.

Finally, water temperatures in the Middle Fork Willamette are too warm in late summer and fall but the Corps conducts no temperature operations there either. Ex. 76 at 61, 66-70; Ex. 77 at 63, 68-72. The Corps claims that use of the Lookout Point ROs in summer/fall will not help cool the water downstream even though it has never tried that approach and the ROs are 56' below the turbines where the reservoir is cooler in August through October. Ex. 76 at 61, 72; Ex. 77 at 63, 74; Wells Decl. ¶ 71 (noting turbines at 780' and ROs at 724'). Plaintiffs propose that the Corps begin using the ROs at Lookout Point on August 15 to cool downstream water in late summer and fall. Third Domingue Decl. ¶ 75. Given the dire situation with the Middle Fork Chinook population, testing this operation is the best course of action. The Corps proposes no temperature control at Lookout Point in its interim measures. Ex. 67 at 24.

High TDG levels have been another water quality problem, particularly below Big Cliff Dam. Spill operations can create high TDG so Plaintiffs are proposing measures to reduce TDG during such operations. They propose spreading the water flow across the spillway by using multiple spillway gates at the smaller, re-regulating dams where spill occurs often (Big Cliff, Foster, Dexter). Pl. Rem. Prop. at 1, 3, 4; Third Domingue Decl. ¶¶ 29-34, 56, 83. The Corps included that interim measure for Big Cliff but not for Foster or Dexter. Ex. 67 at 7, 10-11, 21.

TDG problems have been much more extensive below Big Cliff than at other dams and therefore Plaintiffs have included additional measures there. Third Domingue Decl. ¶¶ 30-34. In light of continuing exceedances of TDG limits below Big Cliff despite spreading spill across gates, a structural solution is necessary to alleviate the problem. *See* Ex. 79; Ex. 80; Ex. 81 at 1;

Ex. 82 at 1 (all noting that spreading spill at Big Cliff is not sufficient to address TDG problem and structural solution is needed). Accordingly, Plaintiffs' proposal includes a process to move forward on a structural solution at Big Cliff by having a team of experts assess and recommend a solution and the Corps complete the 60% design report by December 2023. Pl. Rem. Prop. at 2. Plaintiffs' measures also allow the expert team to recommend use of turbines at Big Cliff and Detroit during passage operations if TDG levels become too detrimental to fish. *Id.* at 1.

The last water quality measure in Plaintiffs' proposal is to study the pathogen load in the Middle Fork Willamette by testing for pathogens below Dexter Dam before and after the Lookout Point deep drawdown. Pl. Rem. Prop. at 4; Third Domingue Decl. ¶ 84. This study may help determine if pathogens contribute to the high rate of pre-spawn mortality of adult Chinook in the Middle Fork.

4. Monitoring and Other Measures

Monitoring is a critical element of the injunction to determine if operational changes are beneficial to the fish, and to provide key information for the new biological opinion. Pl. Rem. Prop. at 4; Fourth Schroeder Decl. ¶¶ 73-79; Third Domingue Decl. ¶ 91. Courts have ordered monitoring as part of injunctions in other complex ESA cases involving fish. *NWF VII*, 2017 WL 1829588, at *11 (ordering PIT tag monitoring of fish), *aff'd* 886 F.3d at 824; *Wishtoyo Found.*, 2018 WL 6265099, at **69, 73 (requiring monitoring of injunction measures); *South Yuba Citizens League,* 804 F. Supp. 2d at 1058-59 (requiring monitoring of injunction measure and adjustment of measure based on results). Plaintiffs seek monitoring that would evaluate the effects of the interim measures on UWR Chinook and steelhead and their habitat to determine if the measures are improving survival of fish and providing overall benefits to the populations. This is important not only for assessing whether to continue these actions in the short-term, but

also whether they should be considered as part of a long-term solution. Fourth Schroeder Decl. ¶ 79. Much of this information should have been collected during the past decade, but due to the Corps' refusal to comply with requirements of the 2008 BiOp, implementing and monitoring these measures over the next few years is essential. Third Domingue Decl. ¶ 91.

Plaintiffs also request biological monitoring that NMFS and ODFW have been seeking for years but the Corps has resisted funding, and which would also provide key information for the new biological opinion. This monitoring would entail collecting data on viable salmonid population attributes of abundance/productivity, spatial structure, life history diversity, and genetic diversity to assess population and species status. Fourth Schroeder Decl. ¶¶ 73-78. Without a court order, it is unlikely the Corps would fund this monitoring.

To implement many of the injunction measures, Plaintiffs propose use of an expert team of biologists, called the "technical advisory team". This team would assess and recommend structural passage and structural TDG solutions at Foster and Big Cliff dams, would advise on adjusting passage operations if TDG levels become too detrimental, would assess results after monitoring operational measures for two years and recommend any changes to those measures, and would determine the plans and protocols for monitoring. Pl. Rem. Prop. at 1-5; Fourth Schroeder Decl. ¶¶ 79-80; Third Domingue Decl. ¶¶ 26, 29, 34, 50-51, 57, 65, 79, 92. The Corps must follow these recommendations unless unable to do so due to hydrologic conditions, flood control needs, or dam safety issues. Pl. Rem. Prop. at 5. This measure is necessary to limit the Corps' discretion to ignore the advice of biologists about what it must do for the survival and recovery of these species, as it has done for more than a decade. Fourth Schroeder Decl. ¶ 84. The Corps has failed to abide by the ESA's requirement to give threatened fish the highest priority through its excuses of inadequate funding or need to fulfill other Project purposes. The

Corps must be directed to follow the advice of expert biologists unless that advice is impossible to carry out due to current environmental conditions or will jeopardize human health and safety.

In that vein, Plaintiffs propose that the expert team consist of two NMFS biologists, two ODFW biologists, and two experts chosen by Plaintiffs. Pl. Rem. Prop. at 5. Plaintiffs have not included the Corps' biologist, Mr. Piaskowski, due to his clear bias in favor of status quo Corps operations and against actions to benefit the fish. Mr. Piaskowski filed a declaration opposing Plaintiffs' preliminary injunction that not only argued against any changes to Corps' operations, but made very concerning statements promoting reliance on hatchery fish and that there is no need to protect diverse life history forms of juvenile fish—both of which go against strong scientific consensus. Piaskowski Decl. ¶¶ 7, 25-103; Fourth Schroeder Decl. ¶¶ 7-9, 11, 28, 31, 47. These opinions are in line with Mr. Piaskowski's positions over the years opposing many of the recommendations of NMFS and ODFW. Because it is highly questionable whether Mr. Piaskowski has the best interest of the fish in mind, he should not be on the expert team.[9]

Plaintiffs' next point requires the Corps to strictly follow maintenance outage schedules and emergency protocols recommended by the expert agencies. Third Domingue Decl. ¶ 93. Unplanned events, such as power outages or mechanical failures, and routine maintenance of the dams can cause water quality problems—particularly high TDG levels. The Corps has protocols to deal with emergency events and schedules for maintenance to minimize impacts to fish, but it frequently fails to abide by these schedules and protocols, causing adverse impacts to the fish. *See e.g.* Ex. 17 at NS-12-21 (maintenance target periods and protocols for emergencies for North Santiam dams); Ex. 34 at 27; Ex. 39; Ex. 58 at 2; Ex. 80 (violations of schedules or protocols). A court order on this point would likely improve the Corps' compliance with these schedules and

[9] Plaintiffs would not necessarily oppose a more neutral Corps biologist on the team, such as the biologist quoted in the Fall Creek article. *See* Ex. 86.

protocols and thereby reduce harm to UWR salmon and steelhead.

Status reports to the Court are also a necessary element of an injunction to ensure compliance with the injunction measures. *NWF V*, 839 F. Supp. 2d at 1132 (ordering annual report to the court); *Tidwell,* 2010 WL 5464269, at *8 (ordering mid-season status report to the court); *Wishtoyo Found.*, 2018 WL 6265099, at *74 (ordering compliance reports filed with court every 4 months). Plaintiffs are requesting status reports be filed with the court every six months given the Corps' history of delay and noncompliance. Pl Rem. Prop. at 5.

Plaintiffs other two requested measures are: (1) an order for the Corps to begin an administrative process that could allow for TDG levels up to 120% during temporary operations, and (2) an order for the Corps to re-model potential operational measures regardless of any impact they might have on other purposes of the Project. Pl. Rem. Prop. at 5; Third Domingue Decl. ¶¶ 94-95. These measures would allow the Corps to seek a variance to exceed state TDG standards on occasion to allow for spill or RO operations; and to analyze other operations that could help fish without the constraint that they must not impair other Project purposes.

5. Conclusion

Plaintiffs' remedial measures are based on the best available science and backed by Plaintiffs' experts as well as the expert agencies. While they are not guaranteed to succeed, scientific certainty is not required and Plaintiffs' measures satisfy the standard needed for injunctive relief. *NWF VIII*, 886 F.3d at 823; *NWF VII*, 2017 WL 1829588, at *9; *Hoopa Valley Tribe,* 230 F. Supp. 3d at 1145. In comparison, the Corps' interim measures are merely minor adjustments to status quo operations that are inadequate to significantly boost survival during downstream passage or to improve water quality below the dams. Fourth Schroeder Decl. ¶¶ 82-84. Without more aggressive actions—such deep drawdowns at Cougar and Lookout Point,

outplanting adult fish above Green Peter, and using the lowest outlets for temperature control at Detroit and Lookout Point—it is highly unlikely these species will reverse their downward trends and rise out of their perilously low abundance levels. Fourth Schroeder Decl. ¶¶ 85-87; Third Domingue Decl. ¶ 98. Plaintiffs measures also incorporate rigorous scientific analysis into the decision-making process by requiring monitoring and use of a technical advisory team. Fourth Schroeder Decl. ¶ 87. For too long, the Corps has refused to conduct important monitoring and rejected scientists' advice in order to protect other Project purposes. The Court must intervene to remedy the Corps' legal violations and prevent further harm to the species.

B. The Corps Has Authority To Implement All of Plaintiffs' Measures.

The Corps has claimed it does not have authority to conduct certain operations that will impair power production, such as deep drawdowns at Lookout Point or Cougar. *See* Def. PI Resp. at 17-18 (ECF No. 64); Pl. Ex. 21 at 3; Ex. 90 at 3 (no authority to do Lookout Point deep drawdown). In particular, the Corps relies on House Document 531 that accompanied the 1950 Flood Control Act to assert that it cannot dip into a reservoir's "power pool" for any purpose other than power generation—including to help ESA-listed fish. Def. PI Resp. at 17-18. Notably, the Corps' position on this was an abrupt about-face that occurred after the agency had tested a deep drawdown at Cougar in 2012 and planned for more, and had worked for several years on planning a deep drawdown at Lookout Point. Pl. Ex. 26 at 28; Ex. 27 at 10-11 (Cougar deep drawdown); Pl. Ex. 19 at 10; Ex. 20; Ex. 21 at 3; Ex. 22 (Lookout Point deep drawdown). This Court must set the Corps straight about its authority to conduct these operations, and other operations that might affect other Project purposes, not only so that the interim operations can proceed but also to settle the authority issue for long-term plans in the new biological opinion.

The Flood Control Act of 1950 authorized various projects in the Columbia and

Willamette River basins for flood control "and other purposes," and those projects were to be implemented "substantially" in accordance with the plans recommended in HD 531. Pub. L. No. 81-516, 64 Stat. 163, 179 (1950). These "other purposes" were described in HD 531 as irrigation, power generation, fish and wildlife conservation, water quality, water supply, navigation and recreation. HD 531 at 1, 12, 248, 2034;[10] Wells Decl. ¶ 12.

Subsequently, Congress amended the Fish and Wildlife Coordination Act in 1958 so that wildlife conservation received equal consideration and had to be coordinated with other features of water-resource development. *NWF v. NMFS,* 2005 WL 1278878, at *9 (D. Or. May 26, 2005) (*NWF I)* (citing 16 U.S.C. § 661). Then in 1980, the Northwest Power Act "established an affirmative conservation mandate" to protect, mitigate, and enhance fish and wildlife in the Columbia basin, including the Willamette River, by requiring federal agencies to exercise their power production and other responsibilities in a manner that provided equitable treatment for fish and wildlife. *Id.* (citing 16 U.S.C. § 839). Thus, the Northwest Power Act placed "fish and wildlife concerns on an equal footing with power production." *Id.* (quoting *Confederated Tribes and Bands of the Yakima Indian Nation v. Fed. Energy Regulatory Comm'n,* 746 F.2d 466, 473 (9th Cir. 1984)).

In light of the various statutory authorities governing operation of the Columbia basin dams, the Ninth Circuit and this Court have both recognized the Corps' discretion to manage those dams for the benefit of threatened fish, even at the expense of hydropower production. *NWF IV,* 524 F.3d at 928-29 & n.8; *NWF I,* 2005 WL 1278878, at **9-10. The authorizing statutes imposed broad goals but did not dictate how the agencies must fulfill those goals, giving them considerable discretion in choosing what specific actions to take when managing the dams.

[10] HD 531 can be found at https://catalog.streamnetlibrary.org/cgi-bin/koha/opac-detail.pl?biblionumber=6860&query_desc=kw%252Cwrdl%253A%20531.

NWF IV, 524 F.3d at 928-29. As this Court stated, "[t]he action agencies have considerable discretion in their administration of the systems, allowing them to meet their mandates and yet adjust operations to fulfill multiple purposes, even though there may be some conflict among the purposes." *NWF I,* 2005 WL 1278878, at *10. Because of this management discretion, the Corps must operate the dams in compliance with the ESA's no-jeopardy mandate regardless of the expense or burden. *NWF IV,* 524 F.3d at 929. Accordingly, these courts have ordered the Corps to conduct Columbia River dam operations to benefit fish at the expense of power production. *See NWF II,* 422 F.3d 788; *NWF V,* 839 F. Supp. 2d at 1131; *NWF VII*, 2017 WL 1829588, at *6, *aff'd,* 886 F.3d 803 (all ordering water to be spilled over dams rather than run through turbines in order to improve fish migration).

The Corps argues that HD 531 eliminates its discretion to reduce power production during October—March to benefit other uses such as fish. Def. PI Resp. at 17-18. But language in HD 531 makes clear that its plans were just a "general guide" for management of the dams in the Columbia and Willamette basins, which could be adjusted later as conditions changed or more information about the dams' effects became known—including effects on fish. HD 531 at 15-16, 19-21, 253, 324, 334, 342, App. P. Indeed, the very beginning of the document states that the dams were to be operated "generally" in accordance with the plans outlined in HD 531, with such "modifications" as the Chief of Engineers may find to be advisable. *Id.* at 5, 21.

The Corps' position concerning the "exclusive use" of certain storage water for power production during October to March is based on the "reservoir regulation study" found in Appendix J of HD 531, which pertained to the Willamette Basin in particular. Def. PI Resp. at 17 (citing HD 531 App. J at 2239). This 1000-page Appendix contained extensive detail about Project dams as well as numerous studies related to regulating uses of the dams. *See* HD 531

App. J at 1661-82 (Table of Contents). The reservoir regulation study estimated water requirements for each authorized use and developed a coordinated plan where each use would get maximum benefit based on an average year. *Id.* at 2052; *see also* Wells Decl. ¶ 18 (study resulted in water control plan for each dam). Notably, Appendix J stated that the reservoir regulation study was based on the best available information at the time but the plans developed "*should not be considered final if future developments in the basin should alter the concept of any of the conservation requirements, or should research indicate that a change in reservoir regulation policy would be beneficial.*" *Id.* at 2064 (emphasis added). Indeed, courts have recognized that plans such as those in HD 531 are preliminary in nature, and may be adjusted by the Corps later to accommodate newly discovered facts or changes in physical or legal conditions. *United States v. 2,606.84 Acres of Land*, 432 F.2d 1286, 1292 (5th Cir. 1970), *cert. denied*, 402 U.S. 916 (1971); *Creppel v. U.S. Army Corps of Engineers*, 670 F.2d 564, 572-73 (5th Cir. 1982). *See also Britt v. U.S. Army Corps of Engineers*, 769 F.2d 84, 89 (2d Cir. 1985).

Accordingly, HD 531 did not set the Corps' management in stone; the Corps has discretion to alter operations of the Willamette dams to benefit ESA-listed species at the expense of other uses—including power production—just as it does with the Columbia dams. Plaintiffs' proposed measures would not cause the Corps to entirely abandon the use of these dams for power production, it would simply curtail that production at certain times of the year to benefit fish migration—an acceptable balancing of the authorized uses to comply with the ESA.

CONCLUSION

For the foregoing reasons, Plaintiffs respectfully request the Court order their proposed injunction to remedy the Corps' ESA violations and prevent irreparable harm to UWR Chinook salmon and steelhead.

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Respectfully submitted,

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EXHIBITS

The following exhibits are public documents obtained from NMFS, the Corps, or ODFW.

Exhibit 63: WATER Steering and RM&E Teams Meeting Notes (April 7, 2020)

Exhibit 64: WATER Manager's Forum Meeting Notes (Oct. 18, 2019)

Exhibit 65: NMFS UWR Chinook and steelhead draft population updates (Oct. 18, 2019)

Exhibit 66: NMFS comments to Corps on scoping notice for Willamette Project EIS (June 28, 2019)

Exhibit 67: Corps Willamette Valley Project Interim Measures Implementation Plan (June 2020)

Exhibit 68: WATER Steering Team Meeting Notes (June 2, 2020)

Exhibit 69: Notes from Workshop on Passage Feasibility in the Middle Fork (Sept. 24, 2019)

Exhibit 70: NMFS comments on draft alternatives and measures for Willamette Project EIS (June 19, 2020)

Exhibit 71: ODFW comments on draft alternatives and measures for Willamette Project EIS (June 12, 2020)

Exhibit 72: Notes on EIS alternatives discussion May 21, 2020 for Middle Fork

Exhibit 73: ODFW notes on EIS alternatives (undated)

Exhibit 74: Email from Marc Liverman, NMFS, re: draft special operations request for Lookout Point spring spill (Feb. 27, 2019)

Exhibit 75: Email from Fenton Khan, Corps, re: spring/summer spill test at Lookout Point Dam (Jan. 23, 2019)

Exhibit 76: Willamette Basin Annual Water Quality Report for 2018 (Nov. 2019)

Exhibit 77: Willamette Basin Annual Water Quality Report for 2019 (March 2020)

Exhibit 78: NMFS comments on Detroit Downstream Passage Draft EIS (April 30, 2019)

Exhibit 79: Corps Memorandum for the Record re: Elevated TDG at Big Cliff Dam (May 3, 2019)

Exhibit 80: NMFS comments on Memorandum for the Record re: turbine unit forced outage at Big Cliff Dam (Nov. 1, 2019)

Exhibit 81: Email chain re: high TDG at Big Cliff Dam and Minto Fish Facility (April 1-3, 2019)

Exhibit 82: WATER Steering Team Meeting Notes (Nov. 6, 2018)

Exhibit 83: NMFS comments on Cougar 2.0 50% Review Report (Feb. 7, 2020)

Exhibit 84: Fish Facility Design Work Group Meeting Notes (Aug. 4, 2020)

Exhibit 85: NMFS Memorandum to Corps re: Fish Passage Research at Green Peter Dam (June 28, 2019)

Exhibit 86: Corps News Release "Fall Creek Adult Fish Facility—Improving eFishencies" Sept. 2, 2020)

Exhibit 87: NMFS responses to Corps re: spring spill passage operations at Lookout Point Dam in 2019 (Dec. 4, 2018)

Exhibit 88: Email chain re: draft special operations request for spring spill at Lookout Point Dam (Feb. 26-27, 2019)

Exhibit 89: NMFS Memorandum to Corps re: System Operational Request: Spring Spill to Improve Downstream Passage & Survival of UWR Chinook Salmon at Lookout Point and Dexter Dams (June 28, 2019)

Exhibit 90: WATER Managers Forum notes (April 2019)

ELEVATIONS AT HIGH HEAD DAMS

Detroit		
Maximum conservation pool	1563	
Spillway		1541
Minimum conservation pool	1450	
Minimum power pool	1425	
Turbines		1395
Upper RO		1340
Lower RO		1265
Green Peter		
Maximum conservation pool	1010	
Fishhorns		985, 960, 935, 910
Spillway		968
Minimum conservation pool	922	
Minimum power pool	901	
Turbines		810
ROs		745
Cougar		
Maximum conservation pool	1690	
Spillway		1657
Minimum conservation pool	1532	
Minimum power pool	1516	
ROs		1479
Turbines		1419
Lookout Point		
Maximum conservation pool	926	
Spillway		887
Minimum conservation pool	825	
Minimum power pool	819	
Turbines		780
ROs		724
Fall Creek		
Maximum conservation pool	830	
Spillway		791
Minimum conservation pool	728	
ROs		670